



Department of Energy
 Richland Operations Office
 P.O. Box 550
 Richland, Washington 99352

FEB 18 1983

Dr. Robert J. Wright
 Senior Technical Advisor
 High Level Waste Technical
 Development Branch
 Division of Waste Management
 U. S. Nuclear Regulatory Commission
 Washington, DC 20555

Dear Dr. Wright:

NRC REQUEST FOR BWIP SCR REFERENCES (SCR-4)

As requested by your letter of November 24, 1982, and discussed by telephone on February 8, 1983, with you and D. Squires of my staff, the enclosure describes the 189 references which were identified in Attachment 1 to your letter. These documents are being sent to you under separate cover, except for those which require additional actions. Superscript numbers identify the status of those actions, as follows:

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|---|---|-----------------------------|
| 1 | documents currently in reproduction, which will be transmitted as soon as they are available; | 164 sep. cover
(6 total) |
| 2 | documents which were transmitted earlier; | (10 total) |
| 3 | documents whose availability is being determined; and | (6 total) |
| 4 | documents not listed in the SCR as references. | (3 total) |

The references which were requested in Attachment 2 to your letter were transmitted as follows: "First Ten" - transmitted on 11/30/82 by my letter to you, and "Second Ten" - transmitted on 12/8/82 by my letter to you. 189

If you have any questions on the above discussed material, please call Mr. Squires on 444-7240.

Very truly yours,

O. L. Olson
 O. L. Olson, Project Manager
 Basalt Waste Isolation Project Office

BWI:DJS

Enclosure

cc, w/encl: R. Stein, DOE-HQ

WM-10

WM Record File	101.2
WM Dir.	
WM Dep. Dir.	
WMPI	WMHL
WMHT	WMHL
WMUR	Others

rec'd 2-23-83

WM Record File
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WM Project WM-10
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Distribution:

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ATTACHMENT
NRC REQUEST FOR BWIP-SCR REFERENCES

<u>NRC No.</u>	<u>Reference Requested</u>
✓ 1	AESD, 1980, <u>Engineered Waste Package Design Specification, AESD-TME-3055, Advanced Energy Systems Division, Westinghouse Electric Corporation, Pittsburgh, Pennsylvania, October 1980.</u>
12	AESD, 1982, <u>Waste Package Concepts for Use in the Conceptual Design of the Nuclear Waste Repository in Basalt, AESD-TME-3142, Advanced Energy Systems Division, Westinghouse Electric Corporation, Pittsburgh, Pennsylvania, September 1982.</u>
3	ARHCO, 1977, <u>Environmental Protection Annual Report CY-1978, ARH-LD-154, Atlantic Richfield Hanford Company, Richland, Washington.</u>
4	McVay, G. L., Bradley, D. J., and Kircher, J. F., 1981, <u>Elemental Release from Glass and Spent Fuel, ONWI-275, Office of Nuclear Waste Isolation, Battelle Memorial Institute, Columbus, Ohio.</u>
5	Burkholder, H. C., 1981, <u>Engineered Components for High-Level Radioactive Waste Isolation Systems--Are They Technically Justified, ONWI-286, Office of Nuclear Waste Isolation, Battelle Memorial Institute, Columbus, Ohio.</u>
✓ 26	ONWI, 1981e, <u>NWTS Program Plan for the Development and Testing of NWTS Waste Package Materials, DOE/NWTS-34, Office of Nuclear Waste Isolation Battelle Project Management Division, Columbus, Ohio.</u>
7	ONWI, 1981d, <u>Waste Package Performance Criteria, NWTS-33(4), Battelle Project Management Division, Columbus, Ohio, May 1981.</u>
8	Cearlock, D. B., Cole, C. R., Foote, H. P., and Wallace, R. W., 1975, <u>Mathematical Groundwater Model of the Ahtanum-Moxee Sub-basins, Yakima County, Washington, Battelle, Pacific Northwest Laboratories, Richland, Washington.</u>
9	Gray, R. H. and Dauble, D. D., 1976, <u>Checklist and Relative Abundance of Fish Species from the Hanford Reach of the Columbia River, BN-SA-536, Battelle, Pacific Northwest Laboratories, Richland, Washington.</u>
10	Dauble, D. D., 1980, <u>Ecology and Use of the Mid-Columbia River, BN-SA-1073, Battelle, Pacific Northwest Laboratories, Richland, Washington.</u>
11	Neitzel, D. A., Page, T. L., and Hanf, R. W., Jr., 1981, <u>Mid Columbia River Zooplankton, BN-SA-1351, Battelle, Pacific Northwest Laboratories, Richland, Washington.</u>

<u>NRC No.</u>	<u>Reference Requested</u>
12	<u>Daubek, H. G., 1970, Tornado History and a Discussion of the Tornado Warning System, BNW/JN 19-20, Battelle, Pacific Northwest Laboratories, Richland, Washington.</u>
13	<u>Myers, D. A., Fix, J. J., and Raymond, J. R., 1977, Environmental Monitoring Report of Groundwater Beneath the Hanford Site, January-December 1976, BNWL-2119, Battelle, Pacific Northwest Laboratories, Richland, Washington.</u>
14	<u>Elliott, D. C., Sandusky, W. F., and Woodruff, R. K., 1975, "An Investigation of Regional Flow Patterns for Improving Estimates of Effluent Transport and Diffusion," BNWL-B-459, presented at The Annual Meeting of the Pacific Northwest International Section - Air Pollution Control Association, Vancouver, British Columbia, November 19-21, 1975, Battelle Pacific Northwest Laboratories, Richland, Washington.</u>
15	<u>Turcotte, R. P. and Wald, J. W., 1978, Devitrification Behavior in a Zinc Borosilicate Nuclear Waste Glass, PNL-2247, Pacific Northwest Laboratory, Richland, Washington</u>
16	<u>Brown, R. E., 1968, A Study of Reported Faulting in the Pasco Basin, PNL-SA-1704, Pacific Northwest Laboratory, Richland, Washington.</u>
17	<u>Serne, R. J. (Chairman), 1978, Proceedings of the Task for Waste Isolation Safety Assessment Program (WISAP). Second Contractor Information Meeting, PNL-SA-7352, Pacific Northwest Laboratory, Richland, Washington.</u>
218	<u>Ross, W. A., Turcotte, R. P., Mendel, J. E., and Rusin, J. M., 1979, A Comparison of Glass and Crystalline Waste Materials, PNL-SA-7530, Pacific Northwest Laboratory, Richland, Washington.</u>
19	<u>Childs, J. T., and Orgill, M. M., 1979, "Case Study of a Severe Convective Storm in the Pacific Northwest," PNL-SA-7998, presented at 26th Pacific Northwest Region Meeting of the American Geophysical Union, September 17-18, 1979, Pacific Northwest Laboratory, Richland, Washington.</u>
20	<u>Rickard, W. H., Hanson, W. C., and Fitzner, R. E., 1980, The Non-Fisheries Biological Resource of the Hanford Reach of the Columbia River, PNL-SA-8423, Pacific Northwest Laboratory, Richland, Washington</u>

<u>NRC No.</u>	<u>Reference Requested</u>
21	<u>Rai, D., Stuchert, R. G., and Moore, D. A., 1981, Influence of Solid Phases on Americium Concentrations in Solutions, PNL-SA-9106, Pacific Northwest Laboratory, Richland, Washington.</u>
22	<u>Rai, D., Strickert, R. G., Fulton, R. W., and McVay, S. L., 1981, Neptunium Concentrations in Solutions Contacting Actinide-Doped Glass, PNL-SA-9699, Pacific Northwest Laboratory, Richland, Washington.</u>
223	<u>BWIP and KE/PB, 1982, Nuclear Waste Repository in Basalt, Project B-301, Functional Design Criteria, RHO-BWI-CD-38, Rev. 4, Basalt Waste Isolation Project Staff and Kaiser Engineers, Inc./Parsons Brinckerhoff Quade and Douglas, Inc. for Rockwell Hanford Operations, Richland, Washington.</u>
224	<u>Wood, M. I., Aden, G. D., and Lane, D. L., 1982, Evaluation of Sodium Bentonite and Crushed Basalt as Waste Package Backfill Materials, RHO-BWI-ST-21, Rockwell Hanford Operations, Richland, Washington.</u>
225	<u>Wukelic, G. E., Foote, H. P., Blair, S. C., and Begej, C. D., 1981, Monitoring Land and Water-Use Dynamics in the Columbia Plateau Using Remote-Sensing Computer Analysis and Integration Techniques, RHO-BW-CR-122 P/PNL-4047, Rockwell Hanford Operations/Pacific Northwest Laboratory, Richland, Washington.</u>
226	<u>WCC, 1980c, Assessment of the Effects of Surficial Geologic Processes in the Pasco Basin, Final Report, RHO-BW-CR-129 P, Woodward-Clyde Consultants for Rockwell Hanford Operations, Richland, Washington.</u>
227	<u>BWIP, 1982b, An Assessment of Geologic Data Needs Requiring Borehole Drilling and Testing to Support Site Characterization Activities for a Nuclear Waste Repository in Basalt, RHO-BW-EV-2 P, Rockwell Hanford Operations, Richland, Washington.</u>
228	<u>BWIP, 1982c, An Assessment of Hydrologic Data Needs Requiring Borehole Drilling and Testing to Support Site Characterization Activities for a Nuclear Waste Repository in Basalt, RHO-BW-EV-3 P, Rockwell Hanford Operations Richland, Washington.</u>
229	<u>BWIP, 1982a, Test Plan for Obtaining Geotechnical Data Requiring Usage of Boreholes to Support Site Characterization for a Nuclear Waste Repository in Basalt, RHO-BW-PL-1 P, Rockwell Hanford Operations, Richland, Washington</u>
30	<u>Baxter, R. G., 1981, Description of DWPF Reference Waste Form and Canister, DP-1506, E. I. du Pont de Nemours & Company, Savannah River Laboratory, Aiken, South Carolina.</u>

<u>NRC No.</u>	<u>Reference Requested</u>
31	Greene, E. M., 1979, <u>Spent Fuel for Waste Storage Programs, HEDL-TC-1374</u> , Hanford Engineering Development Laboratory, Richland, Washington.
32	Greene, E. M., 1980, <u>Spent Fuel Data for Waste Storage Programs, HEDL-TME 79-20</u> , Hanford Engineering Development Laboratory, Richland, Washington.
33	Bierschenk, W. H., 1957, <u>Hydraulic Characteristics of Hanford Aquifers, HW-48916</u> , General Electric Company, Richland, Washington.
34	Jenne, D. E., 1963, <u>Frequency Analysis of Some Climatological Extremes at Hanford, HW-75445</u> , General Electric Hanford Atomic Products Operations, Richland, Washington.
35	Haimson, B. C., 1978, "Report on Hydrofracturing Tests for In Situ Stress Measurement, Near-Surface Test Facility, Hole DC-11, Hanford Reservation," in DuBois, A., Binnal, E., Chan, T., McEvoy, M., Nelson, P., and Remer, H., <u>Heater Test Planning for the Near Surface Test Facility at Hanford Reservation, LBL-8700</u> , Lawrence Berkeley Laboratory, Berkeley, California, Vol. 2, pp. 10-1 and 10-19.
² 36	Oston, S. and Hunt, J., 1982, <u>Borehole Assessment Need Plan, PR-3677</u> , The Analytic Sciences Corporation, Reading, Massachusetts.
37	Dillon, R. T., Lantz, R. B., and Pahwa, S. B., 1979, <u>A Model for Calculating Radioactive Waste Migration, the Sandia Waste Isolation Flow and Temperature (SWIFT) Model, SAND 78-L1267</u> , Sandia Laboratories, Albuquerque, New Mexico.
38	Davis, R. B., 1979, <u>Data Report for the Nondestructive Examination of Turkey Point Spent Fuel Assemblies 302, 303, 317, 341, and 343, TC-1284</u> , Hanford Engineering Development Laboratory, Richland, Washington.
39	Berman, L. E., Ensminger, D. A., Giuffre, M. S., Koplik, C.m., Oston, S. G., Pollak, G. O., and Ross, B. I., 1978, <u>Analysis of Some Nuclear Waste Management Options, Volume I: Analysis and Interpretation, TR-1103-1-1</u> , The Analytic Sciences Corporation, Reading, Massachusetts.
40	Ross, B., Koplik, C. M., Giuffre, M. S., Hodgins, S. P., and Duffy, J. J., 1979, <u>NUTRAN: A Computer Model of Long-Term Hazards from Waste Repositories, TR-1797-7</u> , The Analytic Sciences Corporation, Reading, Massachusetts.

- | <u>NRC No.</u> | <u>Reference Requested</u> |
|----------------|--|
| 41 | Isherwood, D., Robes, E., Coles, D., and Stone, R., 1980 <u>Program Plan: Field Radionuclide Migration Studies in Climax Granite</u> , UCID-18888, Lawrence Livermore Laboratory, Livermore, California, November 1, 1980. |
| 42 | Neuman, S. P., Sager, B., deMarsity, G., and Simpson, E. S., 1979, <u>Progress and Problems in the Analysis and Prediction of Subsurface Mass Transport</u> , Department of Hydrology and Water Resources, University of Arizona, Tucson, Arizona. |
| 43 | Iwai, K., 1976, <u>Fundamental Studies of Fluid Flow Through a Single Fracture</u> , Ph.D. Thesis, University of California, Berkeley, California. |
| 44 | Merriam, J. C., 1901, <u>A Contribution to the Geology of the John Day Basin</u> , Department of Geologic Sciences Bulletin Vol. 2, University of California, pp. 269-814. |
| 45 | Snow, D. T., 1965, <u>A Parallel Plate Model of Fractured Permeable Media</u> , Ph.D. Thesis, University of California, Berkeley, California. |
| 46 | Gundlach, D. L. and Thomas, W. A., 1977, <u>Guidelines for Calculating and Routing a Dam-Break Flood</u> , Research Note No. 5 Hydrologic Engineering Center, University of California at Davis, Davis, California. |
| 47 | Myers, C. W., 1973, <u>Yakima Basalt Flows near Vantage, and from Core Holes in the Pasco Basin, Washington</u> , Ph.D. Dissertation, University of California at Santa Cruz, Santa Cruz, California. |
| 48 | Fujita, T., 1970, <u>Estimate of Maximum Wind Speed of Tornadoes in Three Northwestern States</u> , SMRP Research Paper No. 92, COM-71-00731, University of Chicago, Chicago, Illinois, December 1970. |
| 49 | Hufen, T. H., 1974, <u>A Geohydrologic Investigation of Honolulu's Basal Waters Based on Isotopic and Chemical Analyses of Water Samples</u> , Ph.D. Dissertation, University of Hawaii, Honolulu, Hawaii. |
| 50 | Price, S. M., 1977, <u>An Evaluation of Dike-Flow Correlations Indicated by Geochemistry, Chief Joseph Swarm, Columbia River Basalt</u> , Ph.D. Dissertation, University of Idaho, Moscow, Idaho. |
| 51 | Prentice, V. L., 1972, <u>Multispectral Remote Sensing Techniques Applied to Salinity and Drainage Problems in the Columbia Basin, Washington</u> , Ph.D. Thesis, University of Michigan, Ann Arbor, Michigan. |

<u>NRC No.</u>	<u>Reference Requested</u>
52	<u>Thiruvathukal, J. V., 1968, Regional Gravity of Oregon, Ph.D. Dissertation, Oregon State University, Corvallis, Oregon.</u>
53	<u>Klosterman, K. E., 1974, An Evaluation of the ERTS-I System Imagery in a Structural Study and a Map Application. ERTS-I Imagery in Southeastern Washington, Northeastern Oregon, and Parts of Western Idaho, M.S. Thesis, University of Washington, Seattle, Washington.</u>
54	<u>Malone, S. D., 1976, Annual Report on Earthquake Monitoring of Eastern Washington, University of Washington, Seattle, Washington.</u>
55	<u>Nickmann, R. J. and Leopold, E., 1980, A Postglacial Pollen Record From Goose Lake, Okanogan County, Washington: Evidence for an Early Holocene Cooling, Contribution 82-2, Quaternary Research Center, University of Washington, Seattle, Washington</u>
56	<u>Rohay, A. C., 1982, Seismic Velocity Structure of the Crust and Upper Mantle in the North Cascade Range, Washington, Ph.D. Dissertation, Department of Geology, University of Washington, Seattle, Washington</u>
57	<u>Rothe, G. H., 1978, "Earthquake Swarms in the Columbia River Basalts," Ph.D. Thesis, University of Washington, Addendum to Annual Technical Report 1978, Earthquake Monitoring of the Hanford Region, University of Washington, Seattle, Washington.</u>
58	<u>UWGP, 1977, Annual Report on Earthquake Monitoring of Eastern Washington, Geophysics Program, University of Washington, Seattle, Washington.</u>
59	<u>UWGP, 1978, Annual Report on Earthquake Monitoring of Eastern Washington, Geophysics Program, University of Washington, Seattle, Washington.</u>
60	<u>UWGP, 1979, Annual Report on Earthquake Monitoring of Eastern Washington, Geophysics Program, University of Washington, Seattle, Washington.</u>
61	<u>UWGP, 1980, Annual Report on Earthquake Monitoring of Eastern Washington, Geophysics Program, University of Washington, Seattle, Washington.</u>
62	<u>UWGP, 1981, Annual Report on Earthquake Monitoring of Eastern Washington, Geophysics Program, University of Washington, Seattle, Washington.</u>

- | <u>NRC No.</u> | <u>Reference Requested</u> |
|-----------------|--|
| 63 | Nickmann, R. J., 1979, <u>The Palynology of Williams Lake Fen, Spokane County, Washington</u> . M.S. Thesis, Eastern Washington University, Cheney, Washington |
| 64 | Bentley, R. D., 1977, "Stratigraphy of the Yakima Basalts and Structural Evolution of the Yakima Ridges in the Western Columbia Plateau," in <u>Geology Excursions in the Pacific Northwest</u> , Brown, E. H. and Ellis, R. C., eds., Western Washington University, Bellingham, Washington, pp. 339-389. |
| 65 | Brown, J. C., 1978, <u>Discussion of Geology and Ground-Water Hydrology of the Columbia Plateau, With Specific Analysis of the Horse Heaven, Sagebrush Flats, and Odessa-Lind Areas, Washington</u> , Research Report 78/15-23, Research Division, College of Engineering, Washington State University, Pullman, Washington. |
| 66 | Camo, V. E., 1976, <u>Petrochemical Stratigraphy and Structure of the Columbia River Basalt, Lewiston Basin Area, Idaho-Washington</u> , Ph.D. Dissertation, Washington State University, Pullman, Washington. |
| 67 | Crosby, J. W. and Chatters, R. M., 1965, <u>Water Dating Techniques as Applied to the Pullman-Moscow Groundwater Basin</u> , Bulletin 296, College of Engineering, Washington State University, Pullman, Washington. |
| 68 | Crosby, J. W., 1972, <u>Borehole Geophysical Investigation of the Area Surrounding the Hanford Atomic Energy Works</u> , Quarterly Report, Research Division, College of Engineering, Washington State University, Pullman, Washington. |
| 169 | Crosby, J. W. II, Anderson, J. V., and Kiesler, J. P., 1972, <u>Geophysical Investigation of Wells in the Horse Heaven Hills Areas</u> , Research Report 72/11-24, College of Engineering, Washington State University, pp. 1-9. |
| ¹ 70 | Daubenmire, R., 1970, <u>Steppe Vegetation of Washington</u> , Washington State Agricultural Experiment Station, Technical Bulletin 62, Pullman, Washington. |
| 471 | Graham, C. E., 1949, <u>Structure of the Western Portion of the Lewiston Downwarp in Southeastern Washington</u> , M.S. Thesis, Washington State College, Pullman, Washington. |

<u>NRC No.</u>	<u>Reference Requested</u>
72	Jackson, E. D., Robinette, M. J., and Crosby, J. W., III, 1976 <u>Geophysical Logging of the Hanford Reservation</u> , Research Report 74/16/51, College of Engineering, Washington State University, Pullman, Washington.
73	Kleck, W. D., 1976, <u>Chemistry, Petrography, and Stratigraphy of the Columbia River Basalt Group in the Imnaha River Valley Region, Eastern Oregon and Western Idaho</u> , Ph.D. Dissertation, Washington State University, Pullman, Washington.
74	Rice, D. G., 1968a, <u>Archeological Reconnaissance-Ben Franklin Reservoir Area, 1968</u> , Laboratory of Anthropology, Washington State University, Pullman, Washington.
75	Rice, D. G., 1968b, <u>Archeological Reconnaissance-Hanford Atomic Works</u> , Washington State University, Pullman, Washington.
76	Silar, J., 1969, <u>Groundwater Studies and Ages in the Eastern Columbia Basin, Washington</u> , Bulletin 315, College of Engineering, Washington State University, Pullman, Washington.
77	Strait, S. R., 1979, <u>Theoretical Analysis of Groundwater Flow in the Bickleton Area, Washington</u> , M.S. Thesis, Washington State University, Pullman, Washington.
78	Summers, K. Y., Crosby, J. W. III, Robinette, M. S., Strait, S. R., and Weber, T. L., 1975, <u>Borehole Geophysical Investigation of the Hanford Reservation</u> , Research Report 75/15-25, College of Engineering Research, Washington State University, Pullman, Washington.
79	Arthur Young and Co., 1977, <u>Tri-Cities Joint Hospital Planning Project, Final Report</u> , Portland, Oregon, September 1977.
80	Farooqui, S. M., Bunker, R. C., Thoms, R. E., Clayton, D.C., and Bela, J. L., 1981b, <u>Post-Columbia River Basalt Group Stratigraphy and Map Compilation of the Columbia Plateau</u> , Open File Report 0-81-10, State of Oregon Department of Geology and Mineral Industries, Portland, Oregon.
³ 81	Toombs, G. L., 1966, <u>Lower Columbia River Environmental Survey in Oregon</u> , Division of Sanitation and Engineering, Oregon State Board of Health, Portland, Oregon.
82	PPL, 1982, <u>Skagit-Hanford Nuclear Project, Preliminary Safety Analysis Report</u> , Puget Power and Light Company, Bellevue, Washington.
³ 83	City of Kennewick, 1981, <u>Budget 1981</u> , Kennewick, Washington.

<u>NRC No.</u>	<u>Reference Requested</u>
84	City of Pasco, 1981, <u>Budget 1981</u> , Pasco, Washington.
85	City of Richland, 1981, <u>Budget 1981</u> , Richland, Washington.
86	RERC, 1979, <u>Tri-Cities Real Estate Research Report</u> , Tri-Cities Real Estate Research Committee, Kennewick, Washington, Autumn 1979.
87	RERC, 1981, <u>Tri-Cities Real Estate Research Report 4(1)</u> , Tri-Cities Real Estate Research Committee, Kennewick, Washington, Spring 1981, p. 28.
88	Pacific Northwest River Basins Commission, 1980, <u>Irrigated Lands in the Pacific Northwest</u> , Land Resources Committee of the Pacific Northwest River Basins Commission for the Depletions Task Force of the Columbia River Water Management Group, Vancouver, Washington.
89	APCA, 1980, <u>General Regulation 80-7 of the Benton-Franklin-Walla Walla Counties Air Pollution Control Authority</u> , Board of Directors of the Benton-Franklin-Walla Walla Counties Air Pollution Control Authority, Richland, Washington, published May 6, 1980, effective July 1, 1980.
90	Jenne, D. E., 1978, <u>Airborne Dust and Its Impact on Hi-Vol Sampling Results at Richland, Washington</u> , Benton-Franklin-Walla Walla Counties Air Pollution Control Authority, Richland, Washington.
91	Jenne, D. E., 1980, <u>Annual Report, Tri-County Air Pollution Control Authority, 1979</u> , Benton-Franklin-Walla Walla Counties Air Pollution Control Authority, Richland, Washington.
92	Jenne, D. E., 1981, <u>Annual Report, Tri-County Air Pollution Control Authority, 1980</u> , Benton-Franklin-Walla Walla Counties Air Pollution Control Authority, Richland, Washington.
93	Benton-Franklin, 1979, <u>Educational Services Directory for Benton-Franklin Counties</u> , Benton-Franklin Governmental Conference, Richland, Washington, Fall 1979.
94	Franklin County Planning Commission, 1979, <u>Comprehensive Plan, Franklin County, Washington, Final Draft</u> , Franklin County Planning Commission, Pasco, Washington, August 1979.
95	Grant, 1980, <u>Priest Rapids Dam Statistical Data</u> , Grant County Public Utility District, Ephrata, Washington

<u>NRC No.</u>	<u>Reference Requested</u>
96	<u>Mackin, J. H., 1955, Geology of the Priest Rapids Development, Priest Rapids Hydroelectric Project, Columbia River, Washington, Grant County Public Utility District, Ephrata, Washington.</u>
97	<u>State of Washington, 1976, A Standard Community Industrial Survey: Pasco, Washington, Department of Commerce and Economic Development, Washington State, Olympia, Washington, March 1976.</u>
98	<u>State of Washington, 1977a, corrected copy, A Standard Community Industrial Survey: Richland, Washington, Department of Commerce and Economic Development, Washington State, Olympia, Washington.</u>
99	<u>State of Washington, 1977b, A Standard Community Industrial Survey: Kennewick, Washington, Department of Commerce and Economic Development, Washington State, Olympia, Washington, March 1977.</u>
100	<u>State of Washington, 1978, Washington State County Population Forecasts by Age and Sex: 1970-2005. Population, Enrollment, and Economic Studies Division, Office of Financial Management, Washington State, Olympia, Washington, June 1978.</u>
101	<u>State of Washington, 1979a, State of Washington Population Trends, 1979, Population, Enrollment, and Economic Studies Division, Office of Financial Management, Washington State, Olympia, Washington, August 1979.</u>
102	<u>State of Washington, 1979b, Revised Personal Income Estimates for Washington State: State, County, and SMSA Data, 1969-1977, Department of Revenue, Division of Research and Information, Washington State, Olympia, Washington, May 1979.</u>
103	<u>State of Washington, 1979c, Annual Planning Report: Richland-Pasco-Kennewick SMSA, Employment Security Department, Research and Statistics Branch, Washington State, Olympia, Washington, July 1979.</u>
104	<u>State of Washington, 1980, Revised Personal Income Estimates for Washington State - State, County, and SMSA Data 1959-1978, Department of Revenue, Washington State, Olympia, Washington, June 1980.</u>
105	<u>State of Washington, 1981a, Forecasts of the State and County Populations by Age and Sex: 1985-2000, With Estimates for 1980, Special Report No. 36, Forecasting and Support Division, Office of Financial Management, Washington State, Olympia, Washington, May 1981.</u>
106	<u>State of Washington, 1981b, Labor Area Summary: Washington State, Employment Security Department, Research and Statistics Branch, Washington State, Olympia, Washington, June 29, 1981.</u>

<u>NRC No.</u>	<u>Reference Requested</u>
107	State of Washington, 1981c, <u>Washington State Register of Historic Places</u> , Office of Archaeology and Historic Preservation, Washington State, Olympia, Washington.
108	WAC, 1973, "Chapter 173-124 - Quincy Groundwater Management Subarea and Zones, Chapter 173-128 - Odessa Groundwater Management Subarea, Chapter 173-130 - Odessa Groundwater Subarea Management Policy, Chapter 173-134 - The Establishment of Regulations for the Administration of the Quincy Groundwater Subarea Established Pursuant to RCW 90.14.130, Chapter 173-160 - Minimum Standards for Construction and Maintenance of Water Wells, Chapter 508-14 - Columbia Basin Projects Groundrules," <u>Washington Administrative Code</u> , Olympia, Washington.
109	WAC, 1973, "Chapter 173-201, Water Quality Standards for Waters of the State of Washington," <u>Washington Administrative Code</u> , Olympia, Washington.
110	Glover, S. L., 1936, <u>Preliminary Report on Petroleum and Natural Gas in Washington</u> , Report of Investigations No. 4, Washington State Division of Geology, Olympia, Washington.
111	Jenkins, O. P., 1922, <u>Underground Water Supply of the Region About White Bluffs and Hanford, Washington</u> , Bulletin No. 25, Washington State Department of Conservation and Development, Division of Geology, Olympia, Washington.
112	Barker, R. A., 1979, <u>Geohydrology and Digital Simulation of the Basalt Aquifer System in the Pullman-Moscow Basin, Washington and Idaho</u> , Water-Supply Bulletin 48, Washington State Department of Ecology, Olympia, Washington.
113	Luzier, J. E., and Burt, R. J., 1974, <u>Hydrology of Basalt Aquifers and Depletion of Groundwater in East-Central Washington</u> , Water-Supply Bulletin 33, Washington State Department of Ecology, Olympia, Washington.
114	MacNish, R. D., and Barker, R. A., 1976, <u>Digital Simulation of a Basalt Aquifer System, Walla Walla River Basin, Washington and Oregon</u> , Water-Supply Bulletin 44, Washington State Department of Ecology, Olympia, Washington.
115	Tanaka, H. H., Hansen, A. J., Jr., and Skrivan, J. A., 1974, <u>Digital-Model Study of Groundwater Hydrology, Columbia Basin Irrigation Project Area, Washington</u> , Water Supply Bulletin 40, Washington State Department of Ecology, Olympia, Washington.

<u>NRC No.</u>	<u>Reference Requested</u>
116	Wolcott, E. E., 1973, <u>Lakes of Washington, Volume II, Eastern Washington</u> , Washington State Department of Ecology, Olympia, Washington.
117	Allen, H. L., 1979, <u>An Inventory of Bald Eagle Habitat on BLM Land in Washington</u> , Washington State Department of Game, Olympia, Washington.
118	Bonini, W. E., Hughes, D. W., and Danes, Z. F., 1974, <u>Complete Bouguer Gravity Anomaly Map of Washington</u> , Washington State Department of Natural Resources, Division of Geology and Earth Resources, Olympia, Washington.
119	Brewer, W. A., 1977, <u>Lineament Map of the State of Washington: Overlay to Landsat Space Imagery, 1:500,000, Open File Map</u> , Washington State Department of Natural Resources, Division of Geology and Earth Resources, Olympia, Washington.
120	Bretz, J. H., 1959, "Washington's Channeled Scabland," <u>Washington Division of Mines and Geology Bulletin 45</u> , Olympia, Washington.
121	Mackin, J. H., 1961, <u>A Stratigraphic Section in the Yakima Basalt and the Ellensburg Formation in South-Central Washington</u> , Report of Investigations No. 19, Washington Division of Mines and Geology, Olympia, Washington.
122	Luzier, J. E., Bingham, J. W., Burt, R. J., and Barker, R. A., 1968, <u>Groundwater Survey, Odessa-Lind Area, Washington</u> , Water-Supply Bulletin 36, Washington State Division of Water Resources, Olympia, Washington.
123	Newcomb, R. C., 1965, <u>Geology and Groundwater Resources of the Walla Walla River Basin, Washington-Oregon</u> , Water-Supply Bulletin 21, Washington State Division of Water Resources, Olympia, Washington.
124	Van Denburgh, A. S. and Santos, J. F., 1965, <u>Groundwater in Washington: Its Chemical and Physical Quality</u> , Water Supply Bulletin 24, Washington Division of Water Resources, Olympia, Washington.
125	Walters, K. L. and Grolier, M. J., 1959, <u>Records of Wells, Water Levels, and Quality of Groundwater in the Columbia Basin Project Area, Washington</u> , Water Supply Paper No. 8, Washington Division of Water Resources, Olympia, Washington.
126	Walters, K. L. and Grolier, M. J., 1960, <u>Geology and Groundwater Resources of the Columbia Basin Project Area, Washington</u> , Water Supply Bulletin 8, Washington State Division of Water Resources, Olympia, Washington.

- | <u>NRC No.</u> | <u>Reference Requested</u> |
|----------------|--|
| 127 | Hoffman, D. C., 1979, "A Field Study in Radionuclide Migration, Radioactive Waste in Geologic Storage," Fried, S., ed., <u>ACS Symposium Series</u> , Vol. 100. |
| 128 | Cheng, P., 1978, "Heat Transfer in Geothermal Systems," in <u>Advances in Heat Transfer</u> , Vol. 14, Academic Press, New York, New York, pp. 1-105. |
| 129 | Comparnous, M. A. and Bories, S. A., 1975, "Hydrothermal Convection in Saturated Porous Media," in <u>Advances in Hydroscience</u> , Vol. 10, Academic Press, New York, New York, pp. 231-307. |
| 130 | Mack, R. N., Bryant, V. M., Jr., and Fryxell, R., 1976, "Pollen Sequence From the Columbia Basin, Washington: Reappraisal of Postglacial Vegetation," <u>The American Midland Naturalist</u> 95(2): 390-397. |
| 131 | Hoel, P. G. and Levine, A., 1964, "Optimal Spacing and Weighting in Polynomial Prediction," <u>Annual of Mathematical Statistics</u> , Vol. 35, p. 1553. |
| 132 | Eichholz, G. G., 1979, "Subsurface Migration of Radioactive Waste Materials by Particulate Transport," <u>Annual Progress Report 1978-79</u> , School of Nuclear Engineering, Georgia Institute of Technology, Atlanta, Georgia. |
| 133 | Barry, R. G., 1973, "Conditions Favoring Glaciation and Deglaciation in North America from a Climatological Viewpoint," <u>Arctic and Alpine Research</u> 5(3): Part 1:171-184. |
| 134 | Freeman, O. W., Forrester, J. D., and Lupper, R. L., 1945, "Physiographic Divisions of the Columbia Intermontane Province," <u>Association of American Geographers, Annuals</u> , Vol. 35, 53-75. |
| 135 | Mack, R. N., Rutter, N. W., Valastro, S., and Bryant, V. M., Jr., 1979c; "Late Quaternary Vegetation History at Waits Lake, Colville River Valley, Washington," <u>Botanical Gazette</u> 139(4):499-506. |
| 136 | Carlsson, A. and Olsson, T., 1977a, "Hydraulic Properties of Swedish Crystalline Rocks, Hydraulic Conductivity and Its Relationship to Depth," <u>Bulletin of the Geological Institute of Uppsala</u> , N57, Uppsala, Sweden, pp. 71-84. |
| 137 | Boulegue, J. and Michard, G., 1979, "Sulfur Speciations and Redox Processes in Reducing Environments," in <u>Chemical Modeling in Aqueous Systems</u> , Jenne, E. A., ed., American Chemical Society Symposium Series 93, pp. 25-50. |

<u>NRC No.</u>	<u>Reference Requested</u>
138	Dibble, W. E. and Tiller, W. A., 1981b, "Kinetic Model of Zeolite Paragenesis in Tuffaceous Sediments," <u>Clay and Clay Minerals</u> , Vol. 29, No. 5, pp. 323-330.
4139	McCarthy, G. J., 1975, "Radioactive Waste Management: The Nuclear Waste Form," <u>Earth and Mineral Sciences</u> , Vol. 45, pp. 17-20.
140	Crosson, R. S., 1980, "Seismicity and Tectonics of the Puget Sound Region, Results from the Regional Seismograph Network," <u>Earthquake Notes</u> , Vol. 50, No. 4, p. 58.
141	Hinds, W. T., 1975, "Energy and Carbon Balances in Cheatgrass, an Essay in Autecology," <u>Ecological Monographs</u> 45(4):376:388.
142	Spry, A., 1962, "The Origin of Columnar Jointing Particularly in Basalt Flows," <u>Geological Society of Australia Journal</u> , Vol. 8, pp. 191-215.
143	Riddinough, R. P., and Hyndman, R. D., 1976, "Canada's Active Western Margin--the Case for Subduction." <u>Geoscience/Canada</u> , Vol. 3, p. 269.
144	Runchal, A. K., 1972, "Convergence and Accuracy of Three Finite Difference Schemes for a Two-Dimensional Conduction and Convection Problem," <u>International Journal of Numerical Methods in Engineering</u> , Vol. 4, p. 541.
145	Dienes, G. J. and Vineyard, G. H., 1957, "Radiation Effects in Solids," <u>Interscience Publishers</u> , New York, New York and London, England.
146	Bramman, J. I. and Powell, H. J., 1975, "Redistribution of Fuel and Fission Products in Irradiated Oxide Fuel Pins," <u>Journal of the British Nuclear Energy Society</u> , Vol. 14, p. 63.
147	Lane, A. E., 1908, "Mine Waters," <u>Lake Superior Mining Institute, Proceedings</u> , Vol. 14, pp. 63-151.
148	Perkins, R. W., Nelson, J. L., and Haushild, W. L., 1966, "Behavior and Transport of Radionuclides in the Columbia River Between Hanford and Vancouver, Washington," <u>Limnology and Oceanography</u> , Vol. 11, pp. 235-248.
149	Stobbs, J. J., and Swallow, A. J., 1962, "Effects of Radiation of Metallic Corrosion," <u>Metallurgical Reviews</u> , Vol. 7, No. 25.

<u>NRC No.</u>	<u>Reference Requested</u>
150	Brown, R. E. and McConiga, M. W., 1960, "Some Contributions to the Stratigraphy and Indicated Deformation of the Ringold Formation," <u>Northwest Science</u> , Vol. 34, No. 2, p. 43.
151	Konicek, D. L., 1975, "Geophysical Survey in South-Central Washington," <u>Northwest Science</u> , Vol. 49, No. 2, p. 106-117.
152	Lawrence, R. D., 1979, "Tectonic Significance of Regional Jointing in Columbia River Basalt, North-Central Oregon," <u>Northwest Science</u> , Vol. 53, No. 1, pp. 33-42.
3153	Couch, R. W. and Lowell, R. P., 1971, "Earthquakes and Seismic Energy Release in Oregon," <u>Ore Bin</u> , Vol. 33, No. 4, pp. 51-84.
154	Farooqui, S. M., Beaulieu, J. D., Bunker, R. C., Stansland, D. E., and Thoms, R. E., 1981a, "Dalles Group Neogene Formations Overlying the Columbia River Basalt Group in North-Central Oregon," <u>Oregon Geology</u> , Vol. 43, p. 131-140.
155	Richmond, G. M., Fryxell, R., Neff, G. E., and Weis, P. L., 1965, "The Cordilleran Ice Sheet of the Northern Rocky Mountains, and Related Quaternary History of the Columbia Plateau," <u>The Quaternary of the United States</u> , Wright, H. E., Jr. and Frey, D. G., eds., Princeton University Press, Princeton, New Jersey, pp. 231-242.
156	Heusser, C. J., 1965, "A Pleistocene Phytogeographical Sketch of the Pacific Northwest and Alaska," in <u>The Quaternary of the United States</u> , Wright, H. E. and Frey, D. G., ed., Princeton University Press, Princeton, New Jersey, pp. 469-483.
157	Wilcox, R. E., 1965, "Volcanic-Ash Chronology," in the <u>Quaternary of the United States</u> , Wright, H. E. and Frey, D. G., eds., Princeton University Press, Princeton, New Jersey, pp. 807-816.
158	Blackwell, O. D., 1981, "Heat Flow of the Cascade Range," in <u>Symposium on the Geothermal Potential of the Cascade Mountain Range</u> , Geothermal Resource Council, Program with Abstracts.
159	Dapsgaard, W., 1964, "Stable Isotopes in Precipitation," <u>Tellus</u> , XVI, pp. 436-468.
160	Danielson, G. D. and Sidles, P. H., 1969, "Thermal Diffusivity and Other Non-Steady-State Methods," in <u>Thermal Conductivity</u> , Tye, R. P., ed., Academic Press, New York, New York, pp. 149-199.
161	Bretz, J. H., 1927, "Channeled Scabland and the Spokane Flood," <u>Washington Academy of Science Journal</u> , 17:200-211

<u>NRC No.</u>	<u>Reference Requested</u>
162	Bretz, J. H., 1969, "Washington's Channeled Scabland," <u>Washington Division of Mines Geological Bulletin</u> , 45.
³ 163	Haman, P. J., 1975, "A Lineament Analysis of the United States," <u>West Canadian Research Publications of Geology and Related Sciences Series</u> , Vol. 4, No. 1
164	Berner, R. A., 1980, <u>Early Diagenesis</u> , Princeton University Press, Princeton, New Jersey, pp. 241.
165	Rusin, J. M., 1980, "A Review of Glass-Ceramic Waste Forms," in <u>Proceedings, Alternate Nuclear Waste Forms and Interactions in Geologic Media--a Workshop</u> , May 13-15, Gatlinberg, Tennessee.
166	Braithwaite, J. W., Magnani, N. J., and Munford, J. W., 1980, "Titanium Alloy Corrosion in Nuclear Waste Environments," Paper No. 213 in <u>Proceedings, Corrosion 80</u> , Chicago, Illinois.
167	Thirumulai, K., 1975, "Rock Mechanics and Development of Advanced Hard Rock Breaking Methods," <u>Proceedings of Fifteenth Symposium on Rock Mechanics</u> , Hoskins, E. R., ed., American Society of Civil Engineers, New York, New York, pp. 449-467.
168	Carlsson, A. and Olsson, T., 1977b, "Variations of Hydraulic Conductivity in Some Swedish Rock Types," <u>Proceedings of Rockstore-77, First International Symposium on Storage in Excavated Rock Caverns</u> , 2 Pergamon Press, Oxford, England, pp. 301-307.
169	Taubeneck, W. H., 1970, "Dikes of Columbia River Basalt in North-Eastern Oregon, Western Idaho, and Southeastern Washington," in <u>Proceedings of the Second Columbia River Basalt Symposium</u> , Cheney, Washington, March 1969, Gilmour, E. H. and Stradling, D., eds., Eastern Washington State College Press, Cheney, Washington, pp. 73-96.
170	Heuze, F. E. and Salem, A., 1976, "Plate Bearing and Borehole Jack Tests in Rock - A Finite Element Analysis," <u>Proceedings of the 17th Symposium on Rock Mechanics</u> , Snowbird, Utah.
171	Hustrulid, W. A., 1976, "An Analysis of the Goodman Jack," <u>Proceedings of the 17th Symposium on Rock Mechanics</u> , Snowbird, Utah.
172	Witherspoon, P. A., Tsang, Y. W., Long, J. C. S., and Noorishad, J., 1981, "New Approaches to Problems of Fluid Flow in Fractured Rock Masses," <u>Proceedings of the 22nd U. S. Symposium on Rock Mechanics</u> , Massachusetts Institute of Technology, Cambridge, Massachusetts

<u>NRC No.</u>	<u>Reference Requested</u>
173	Haug, H. O., 1976, "Relative Toxicity and Long-Term Problems of Actinide-Bearing Wastes from Fuel Reprocessing," CONF-761010, in <u>Proceedings, the Symposium on Waste Management, Tucson, Arizona, pp. 262-271.</u>
174	Osmond, J. K., 1978, "Uranium and Thorium Activity Ratios Time Dependent Change in U-234/U-238 Alpha Activity Ratio (A.R.) Due to Recoil," <u>Proceedings of Workshop on Dating Old Groundwater, David, S. N., ed., University of Arizona, Tucson, Arizona, pp. 112-114.</u>
175	Goodwin, B. W., 1980, <u>Maximum Total Uranium Solubility Under Conditions Expected in a Nuclear Waste Vault, TR-29, Atomic Energy of Canada Limited, Pinawa, Manitoba ROE ILO, September 1980</u>
176	Johnson, L. H., Burns, T. I., Joling, H., and Moore, C. J., 1981, <u>The Dissolution of Irradiated UO₂ Fuel Under Hydrothermal Oxidizing Conditions, TR-128, Atomic Energy of Canada Limited, Pinawa, Manitoba, ROE ILO, April 1981.</u>
177	Roegiers, J. L., Curran, J. H., and Bawden, W. F., 1979, <u>Numerical Modeling of Flow in Fractured Rock Masses, ISSN 0316-798b, Publication 79-02, University of Toronto, Toronto, Ontario.</u>
178	Deer, W. A., Howie, R. A., and Zussman, J., 1967, <u>Rock-Forming Minerals, Longmans, Green and Co., London, England, Vol. 1-5.</u>
179	Larsen, J. A. and Barry, R. G., 1974, "Paleoclimatology," in <u>Arctic and Alpine Environments, Ives, J. D. and Barry, R. G., eds., Methuen and Company, Limited, London, England.</u>
180	Maini, R. Y. N., 1971, <u>In Situ Hydraulic Parameters in Jointed Rock-Their Measurement and Interpretations, Ph.D. Thesis, Imperial College, London, England.</u>
181	Bazin, J., Jouan, J., and Vignesoult, N., 1974, "Comportement et Etat Physico-Chimique des Produits de Fission dans les Elements Combustibles pour Reacteur a Eau Pressurisee," <u>Bulletin d'Information Scientifique et Technique, Vol. 196, No. 55.</u>
182	Delhomme, J. P., 1976, <u>Kriging in Hydroscience, Ph.D. Thesis, Centre D'Information Geologique, Ecole National Superleure Des Mines de Paris (University of Paris), Paris, France.</u>
183	Lemoine, A., 1975, <u>Contribution a l'Etude du Comportement de UO₂ en Milieu Aqueux a Haute Temperature et Haute Pression, Ph.D. Thesis, Universite de Nancy L, Nancy, France.</u>

- | <u>NRC No.</u> | <u>Reference Requested</u> |
|----------------|--|
| 3184 | Poser, H., 1948, "Boden-und Klima-Verhaltnisse in Mittle-and West-Europe wahrend der Wurmeiszeit," <u>Erdkunde</u> , 2:53-68. |
| 185 | Rich, R. A., Holland, H. D., and Petersen, U., 1977, <u>Hydrothermal Uranium Deposits</u> , Elsevier Scientific Publishing Co., Amsterdam, The Netherlands. |
| 186 | Craig, H., 1963, "The Isotopic Geochemistry of Water and Carbon in Geothermal Areas," in <u>Nuclear Geology of Geothermal Areas</u> . Spoleto, Tongiorgi, E., ed., Consiglio Naz. Delle Ricarche Lab di Nucleare, Pisa, Italy, pp. 17-53. |
| 187 | Lundstrom, O., Klockers, C. E., Holmberg, K. E., and Westberg, S., 1978, <u>In Situ Experiments on Nuclide Migration in Fractured Crystalline Rock</u> , KBS Technical Report 110, Studsvik Energiteknik Geologic Society of Sweden. |
| 188 | Olsson, T., 1979, "Hydraulic Properties and Groundwater Balance in a Soil-Rock Aquifer System in the Jukton Area, Northern Sweden," <u>Society Upsaliensis Pro Geologic Quaternia</u> , Uppsala, Sweden, Striae 12. |
| 3189 | WMO, 1975, "The Physical Basis of Climate and Climate Modeling," <u>Report of the International Study Conference in Stockholm, July 29-August 10, 1974</u> , GARP Publication Series No. 16, World Meteorological Organization, International Council of Scientific Unions, Geneva, Switzerland. |